WHAT IS CLAIMED IS:

1. A method of adjusting the intensity of light in an optical spectroscopy system from a light source that emits light having an expected average wavelength spectrum to maintain the reliability of a light signal from said light source, said method comprising the steps of:

modulating a first said light signal by an optical filter configured to weight the intensity of said first light signal by wavelength according to a regression vector that identifies a difference between said average spectrum and the wavelength spectrum of said light signal from said light source;

comparing the intensity of said modulated light to an intensity expected if said wavelength spectrum of said first light signal equaled said average spectrum; and

adjusting a power input to said light source responsively to said comparison to a degree so that a subsequent said light signal defines a wavelength spectrum that is closer to said average spectrum, as measured by said modulating and comparing steps, than said wavelength spectrum of said first light signal.

2. The method as in claim 1, including collimating said light signals prior to said modulating step.

3. The method as in claim 2, including bandpass filtering said light signals prior to said modulating step to a wavelength range that at least includes an operative wavelength range of said optical filter.

4. For a light source in an optical spectroscopy system, a method of compensating for a change in a light signal, said method comprising the steps of:

providing a light source that outputs a light signal having a wavelength spectrum;

identifying a relationship between change in said wavelength spectrum and an expected average wavelength spectrum of said

light source; and

based on said relationship, modifying said wavelength spectrum in compensation for said change.

5. The method as in claim 4, wherein said modifying step includes

modulating a first said light signal by an optical filter configured to weight the intensity of said first light signal by wavelength according to a regression vector that identifies a difference between said average spectrum and the wavelength spectrum of said first light signal;

comparing the intensity of said modulated light to an intensity expected if said wavelength spectrum of first light signal equaled said average spectrum; and

adjusting a power input to said light source responsively to said comparison to a degree so that a subsequent said light signal defines a wavelength spectrum that is closer to said average spectrum, as measured by said modulating and comparing steps, than said wavelength spectrum of said first light signal.

6. For a light source in an optical spectroscopy system, a method of compensating for change in a light signal, said method comprising the steps of:

applying a light signal from a light source to a measurement sample, wherein the entire wavelength range of said light signal applied to said measurement sample is simultaneously applied to said measurement sample;

defining a relationship between change in spectral shape over said wavelength spectrum and change in input power to said light source; and

based on said relationship, relating a change in said spectral shape to a modification in said input power and so modifying said input power in compensation for said change in said spectral shape.